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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/715,087	11/20/2000	Akira Ishida	P101201-00009	7871

7590 08/12/2003

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EXAMINER

IQBAL, KHAWAR

ART UNIT	PAPER NUMBER
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2686

DATE MAILED: 08/12/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/715,087

Applicant(s)

ISHIDA, AKIRA

Examiner

Khawar Iqbal

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). ____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 04,05 6) ☐ Other:

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Silventinen et al (US 6594250 B1) and further in view of Akihiro et al (JP 11074831 A).

3. Regarding claim 1 Silventinen et al teaches a wireless base station that makes a wireless connection with a mobile station by forming an 'array antenna pattern using a plurality of antennas, the wireless base station comprising (abstract):

transmitting means for forming an omnidirectional pattern to transmit a control signal intermittently via a control channel (col.4, lines 26-38); and

receiving means for forming an array antenna pattern to receive a control signal transmitted from a mobile station via the control channel (col.5, lines 26-40). Silventinen et al does not specifically teach omnidirectional and array antenna. Silventinen et al teaches control information (BCCH) is intermittently transmitted from the at least one base station to the at least one mobile station and traffic information (TCH) is transmitted between said at least one base station.

In an analogous art, Akihiro et al teaches omnidirectional (down link) and array (uplink) antenna (abstract). To use a proper beam according to communication information by using a non-directional beam at the time of transmitting the control

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information from a base station to plural mobile terminals, and using a directional beam receiving control information from the Mobile station to the Base station. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the device of Silventinen et al by specifically adding features in order to enhance system performance of omnidirectional and array antenna to improve the efficiency of communication system as taught by Harris et al.

4. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Silventinen et al (US 6594250 B1) and further in view of Akihiro et al (JP 11074831 A) and Ide et al (US 6498804).

Regarding claim 2 Silventinen et al and Akihiro et al do not specifically teach calculating means for calculating a weight coefficient for each of the plurality of antennas based on an input signal received by each antenna, the input signals corresponding to a fixed bit pattern in the control signal; and combining means for combining, using the calculated weight coefficients, an input signal received by each antenna to obtain a reception signal.

In an analogous art, Ide et al teaches calculating means for calculating a weight coefficient for each of the plurality of antennas based on an input signal received by each antenna, the input signals corresponding to a fixed bit pattern in the control signal; and combining means for combining, using the calculated weight coefficients, an input signal received by each antenna to obtain a reception signal (col. 2, lines 27-41, col. 4, lines 35-41). Each of the diversity receivers has a multiplier to multiply a weight coefficient with the signal from each of the antennas and the output is

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synthesized using an adder. An updating circuit updates the coefficients such that error detected at the output of adder is corrected. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the device of Silventinen et al by specifically adding features in order to enhance system performance of calculating a weight coefficient and combining, to improve the efficiency of communication system as taught by Harris et al.

5. Claims 3-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Silventinen et al (US 6594250 B1) and further in view of Akihiro et al (JP 11074831 A) and Wong et al (6453177).

Regarding claims 3-8 Silventinen et al teaches the control signal received by the receiving means is a message from the mobile station requesting the wireless base station to allocate a traffic channel; and the transmitting means further forms an antenna pattern and transmission power to transmit a message allocating a traffic channel to the mobile station via the control channel (col. 1. lines 40-65, col.3, lines 20-38). Silventinen et al and Akihiro et al do not specifically teach raises transmission power.

In an analogous art, Wong et al teaches raises transmission power (col. 2, lines 25-65, col.10, line 63-col. 11, line 50). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the device of Silventinen et al by specifically adding features in order to enhance system performance of raises transmission power, to improve the efficiency of communication system as taught by Harris et al.

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Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Ostberg et al (6504830), Jetzek et al (6539227), 6522898), Halford et al (6411612) and Keskitalo et al (6415163) teach BS intermittently transmit control information.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to KHAWAR IQBAL whose telephone number is 703-306-3015.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **BANKS-HAROLD, MARSHA**, can be reached at 703-305-4379.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

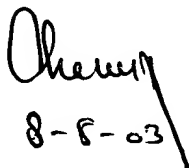
or faxed to:


(703) 872-9314 (for Technology Center 2684 only)

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.

Khawar Iqbal


8-8-03


8/8/2003
NGUYEN T. VO
PRIMARY EXAMINER